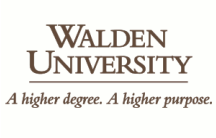

2019

Improving Interdepartmental Care Collaboration for Pregnant Patients

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This is to certify that the doctoral study by

Michelle Ott

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2019

Abstract

Improving Interdepartmental Care Collaboration for Pregnant Patients

by

Michelle A. Ott

MS, Walden University, 2014

BS, Broward College, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Communication is vital to improve patient care outcomes, especially with high acuity patients. Pregnant patients differ from other patient populations because their care involves 2 entities: the patient (mother-to-be) and her unborn fetus. There has been a noted gap in communication and care collaboration between the emergency department (ED) and obstetric (OB) teams at the project site, resulting in delays for patients and lack of appropriate maternal/fetal assessment and contributing negatively to patients' experiences. Using transitions theory and the Rosswurm and Larrabee model, a clinical practice guideline (CPG) inclusive of an obstetrically focused algorithm was developed and presented for use as a communication and care collaboration tool. The implications of this project for nursing practice and positive social change include improved communication and care collaboration at an interdepartmental level when this high acuity patient population presents to the ED for care. The CPG was presented at 3 discussion sessions with 51 administrators, managers, educators, and/or charge nurses from the ED and OB departments of the project site. Overall, nurses reacted positively to the practice guideline and barriers were identified. A qualitative descriptive design was used for this project. Examples of codes identified included "only 1 portable fetal monitor" and "new ED nurses don't know whom to call." From the codes, 3 categories surfaced: (a) education, (b) prioritization, and (c) equipment; and 1 theme emerged: preimplementation needs. The potential impact on pregnant patients who present to the ED after this CPG is fully implemented might be to reduce delays in the ED, ensure patient safety, and improve patients' experiences.

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Dedication

This proposal is dedicated to my family and friends: Gary Ott, Nichole Smith, Danielle Ott, Barbara Ott, Patrick Smith, Kim Harris, Nicole Marshall, Ruth Hughes, Maria Granese, and Pam Alvarez; and to nurses everywhere who note areas of practice they believe can be improved from an evidence-based stance. My husband Gary has stood by my side throughout my extremely long educational journey. He has been my rock when I needed to refocus and has lent his ear on many occasions when I needed to read my work to ensure it made sense. My two daughters, Nichole and Danielle, have been my biggest contribution to life and have supported my education from the beginning. They have told me that I am an inspiration to them, but in fact, they are my inspiration to improve health care through evidence-based research and practice. My mother-in-law Barbara has always been supportive and helpful in every aspect of my life. My son-in-law Patrick has endured listening to me during times of fretting over my coursework and project. My friends Kim, Nicole, Ruth, Maria, and Pam have stood by my side and supported me when I thought I had taken on too much, and they reminded me constantly that I can do it. And, lastly, for all nurses who see a needed change in practice, this is for each of you. As a collective, nurses have the knowledge, skills, and drive to improve the health of the global populace. I challenge each of you to continue on with your education and learn how to bring about the needed changes in health care nursing practice around you.

Acknowledgments

I would like to acknowledge the following people for their assistance in the completion of my educational journey: Virginia Kaye, MSM, RN; Laureen DeSabatino, ARNP, RN; and the leadership and team members of both the emergency department and the obstetric department at the DNP project site. Ms. Kaye and Mrs. DeSabatino were my preceptors for this program's practicum requirements. Each of these amazing nursing leaders exemplified leadership qualities I hope to emulate as I move forward in my career. They each have a strong focus on bringing evidence-based practice changes into nursing care areas where there are evident gaps in an effort to promote positive social and health care changes. The ED and OB teams at the DNP project site were all very supportive of evidence-based research and practice, as well as helping to bring about a change in nursing practice through this project. I also would like to acknowledge my professors and DNP chairs: Dr. Oscar Lee and Dr. Barbara Niedz. Their support and assistance in the entire project process have been immensely helpful in my being able to achieve my educational goals. Dr. Niedz's support and strength held me together, and her part in helping me to achieve my goal cannot be understated. Thank you.

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Section 1: Improving Interdepartmental Communication

Introduction

The Institute of Medicine (IOM) charged health care providers and teams with improving patient care outcomes and quality of care after research showed that a vast number of patients in the United States died every year due to medical errors (Kohn, Corrigan, & Donaldson, 1999). The landmark publication pushed forward to the public and private policy arenas the vital need for safety and high-quality patient care (Kohn et al., 1999). Evidence-based practice (EBP) changes are one modus that can be used throughout health care settings in an effort to improve patient care outcomes. DiCenso, Guyatt, and Ciliska (2014) discussed how evidence-based research, and the need to correct or change nursing practice issues, led to the creation of EBP. In the chosen practice setting, I have noted over the past several years a need for an increase in communication and care collaboration for pregnant patients who present to the emergency department (ED) for care.

One method for improving patient care is through interdepartmental communication, which can be challenging. Different departments and health care disciplines may have to interact and share information when caring for patients, especially during times of care transition. Moments of care transition hold the potential for loss of coordination and care continuity. Care transitions are any grouping of actions that occur at any point during health care provision, between providers, or when a change within, between, or across health care settings occurs (Dusek, Pearce, Harripaul, & Lloyd, 2015). A lack of effective communication during these transitional care times

increases the potential for negative patient care outcomes (Weller, Boyd, & Cumin, 2014). Lacking effective communication and care collaboration between the ED team and the obstetric department (OB) team when pregnant patients present to the ED for care may lead to negative outcomes for both the mother-to-be and her unborn fetus. Chagolla, Keats, and Fulton (2013) described the high potential for negative outcomes for the fetus when physiologic changes occur in the mother-to-be, such as during times of oxygen alterations or elevations in blood pressure. The OB team has the specialized knowledge needed to provide OB care needs, which solidifies how vital interdepartmental communication and care collaboration are when attempting to optimize safe maternal/fetal care outcomes (Chagolla et al., 2013). ED staff may not have the necessary knowledge and skills required to understand or provide care for pregnant patients. Holly and Poletick (2013) described the risks involved with miscommunications during care transition times and how these miscommunications could lead to adverse health outcomes, increased health care costs, and increased complaints from patients related to incorrect diagnoses or treatments. Health care teams need to ensure that barriers to effective communication, such as high workloads, lack of time, lack of support, and staff conflict, are addressed and removed to improve interdepartmental and interdisciplinary communication.

Evidence-based research supports care collaboration and increased interdepartmental communication during high acuity times and when providing care to high acuity patient populations (Kenny, Richard, Ceniceros, & Blaize, 2010). The American College of Obstetricians and Gynecologists (2016) discussed how vital it is for

ED and OB teams to collaborate during the care provision of pregnant women in the ED. There was a noted gap in nursing practice at the chosen field site with regard to communication and care collaboration between the ED and OB teams when a pregnant patient presented to the ED for care. Unfortunately, these gaps had the potential to lead to negative patient care outcomes for both the mother-to-be and her unborn child. In order to ensure high quality, optimal patient care outcomes for this population of patients, it was imperative that ED and OB teams work together to provide a collaborative level of care.

Positive social change can be achieved for the chosen population of patients through the use of EBP improvements in communication and care collaboration in health care settings. EBP is characterized by the use of research applied to the practice setting (Curtis, Fry, Shaban, & Considine, 2017). An evidence-based clinical practice guideline (CPG) is a good solution to solve the problem of interdepartmental communication deficits in the chosen practice setting. CPGs offer a structured, evidence-based format for health care providers to follow during care provision (Kredo et al., 2016). Therefore, I will develop a CPG based on researched evidence and present it to the ED and OB nursing leadership to determine their perspective on a change in workflow that has the potential to solve the communication deficits and close the gap in practice.

Problem Statement

Interdepartmental communication and care collaboration can be difficult to achieve due to barriers such as staffing issues, high volumes, knowledge deficits, and a lack of organizational support. There have been many instances in health care where

ineffective communication and a lack of care collaboration between direct patient care departments have contributed to negative patient care outcomes (National Academies of Sciences, 2013). Interdepartmental communication had been an ongoing issue between the ED and OB teams at the project facility site. The problem noted included a lack of consistent notification from the ED team to the OB team when pregnant patients presented to the ED for non-obstetric care provision as well as a lack of prioritization from the OB team to provide maternal/fetal assessment aligning with the patient complaint or care needs. A review of the facility's electronic health record and OB department's off-unit monitoring log showed inconsistencies in these areas. There were times when the ED team did not notify the OB team about a pregnant patient for hours or when first notification occurred after they were done providing care and the patient was waiting to be discharged. There were other instances when the ED team provided life-sustaining measures without ever notifying the OB team. And, there were instances when the ED team notified the OB team, but the OB unit did not send staff to the patient's bedside in the ED for maternal/fetal assessment for an extended period of time, or they had the patient sent to the OB department hours later when the ED care had been completed; in some cases, the patient left the hospital without ensuring fetal well-being. There was no formal practice in place to address this issue between these two departments. This lack of coordinated care led to extended patient care time in the ED/hospital setting, decreased patient satisfaction, and potential harm to both the patient (mother-to-be) and her unborn fetus.

Addressing the identified problem, the lack of effective communication and care collaboration between the ED and the OB teams, contributes significantly to the patient experience by reducing delays. In addition, a smooth process enhances patient safety, ensuring that care is not only coordinated for the pregnant woman, but also for the unborn fetus. Developing a solution to the problem is an important function for the nurse leader, and solving the problem can also enhance the work life of the nurses in the ED and in the OB departments. Thus, resolving the problem is significant and contributes to improving nursing practice at the project setting.

Purpose Statement

The purpose of this doctoral project was to develop and present a CPG inclusive of an evidence-based obstetrically focused algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients presented to the ED for care. The gap in practice that was present at the site can be described as a lack of effective communication and care collaboration between the ED nurses and the OB nurses, resulting in long patient delays, compromising patient satisfaction, causing frequent patient complaints and less than optimal patient care on a consistent basis. For example, in a 6-month period of time, from July 2018 through December 2018, OB patients who spent time in the ED complained approximately 50% of the time about their wait times for obstetric clearance. Delays in deciding about the needs of the patient and evaluation of the patient's obstetrical status were exacerbated by ED nurses' lack of insight into "when to call." The nurses from the OB unit were therefore not aware that a pregnant patient was in the ED waiting for an evaluation before

decisions could be made about next steps for the patient. When the call is not made and the conversation does not take place, the patient remains in a holding pattern and there is a lack of insight as to fetal well-being because maternal health status has a direct impact on fetal health.

This project has the potential to create positive social change at the local level at the project site, as well as at national and international levels, by helping to improve communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care. Additionally, this doctoral project has the potential to improve patient satisfaction outcomes for this patient population related to decreased time between arrival and care provision with simultaneous maternal/fetal assessment when needed. The project also has the capacity to improve patient care outcomes related to rapid maternal/fetal assessment that may require further obstetric interventions. Thus, the practice-focused question that guided this project was the following: Will the development and use of a CPG facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED?

Nature of the Doctoral Project

In order to solve the problem, I used a thorough and comprehensive review of the literature to develop the communication and care collaboration CPG. I found guidance in the PRIMSA model, and I used Fineout-Overholt, Melnyk, Stillwell, and Williamson's (2010) framework to evaluate the level of evidence in each article that met inclusion and

exclusion criteria for CPG. I incorporated assessment models for obstetrical triage into the CPG's accompanying evidence-based obstetrically focused algorithm.

To evaluate the proposed CPG as a prelude to full implementation, I held several meetings with the ED and OB leaders, educators, and charge nurses to present the CPG and gauge any anticipated obstacles or barriers that might interfere with successful implementation. These meetings included brainstorming on how to overcome these obstacles. During these sessions, an administrative assistant was present to record the dialogue verbatim and then provide the narrative to me as deidentified qualitative data for coding and categorization with the intent of extracting major themes capturing the essence of the nurses' reactions to the CPG. These data provided a major source of evidence regarding the CPG. I used these processes to assist in refining and presenting the CPG, which has the potential to improve communication and collaboration in care between the ED and OB teams when pregnant patients present to the ED for care once the CPG is fully implemented. Full implementation is beyond the scope of this project.

The practice setting for this project was a large tertiary health care organization with a Level I trauma center and a Level IV neonatal intensive care unit. The acuity of the patients cared for at the project site is extremely high with an ED that provides care for greater than 104,000 patients per year and an obstetric unit with staff who deliver greater than 5,000 patients per year. For this project, I created a CPG involving interdepartmental communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care. Interdepartmental communication and care collaboration were key elements in the successful development and presentation of

the project. Full implementation of the CPG will require effective communication skills, the support of the leadership teams of the ED and OB units, ED and OB team buy-in, and the support of the administrative leadership team in order to promote EBP changes in an effort to improve patient care outcomes.

Once I developed the practice guideline, I presented it to the local leadership. Members of the OB and ED leadership, educators, and charge nurse group participated in small discussion groups that included a full presentation of the practice guideline, the evidence in support of the CPG, and the accompanying algorithm, which essentially provides guidance for implementation in the practice setting. I held several sessions to capture a large, broad sample of the ED and OB nurses, and the presentation was followed by active discussions to gauge acceptance of the CPG and identify needed revisions, resources, or support prior to full implementation.

High quality, optimal patient care outcomes need to be a goal for all health care providers and organizations. In order to achieve high quality, optimal patient care outcomes, there needs to be a focus on translating evidence-based research into practice changes. The Institute of Medicine (IOM) explained that quality exists in health care as people and populations are able to achieve their desired health outcomes in a consistent manner with a degree of professional skill and knowledge (Kohn, Corrigan, & Donaldson, 1999). In 2007, the Joint Commission identified how improved outcomes, reductions in errors, and improved patient safety were related directly to patients' receipt of information in a straight forward, accurate, easy to understand, and timely manner (National Clinical Effectiveness Committee, 2014). Nursing interventions, effective

communication, and collaborative care all have the ability to improve patient care outcomes (Stanik-Hutt, 2012). In order to improve quality outcomes for the chosen population of patients and address the gap in nursing practice—ineffective communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care—nursing practice needed to improve. This improvement needed to serve as a concise and structured guide for these teams to follow when pregnant patients present to the ED for care. The CPG in this project addressed this gap in nursing practice.

Significance

Improving nursing practice affects all stakeholders involved in that practice setting. At the project site, multiple stakeholders can be impacted through addressing the local gap in practice. These stakeholders include pregnant patients who present for care in the ED, the ED staff, the OB staff, and the leadership of the organization. Additionally, improving the gap in practice of ineffective communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care can also assist in improved nursing practice on a larger scope. The CPG with the inclusive obstetrically focused algorithm can be used by other health care organizations to assist in improving this population of patients' experiences and health outcomes because it is fully transferrable for use in any organization with ED and OB departments and teams. Positive social change is possible through full implementation of the CPG because it pertains to improving communication and care collaboration for the chosen population of patients.

Summary

EBP changes can assist in improving health care outcomes. One of the leading issues in health care related to poor patient care outcomes is ineffective communication between health care providers. As such, health care organizations should seek out EBPs that will help improve communication among all health care providers and organizational departments. Obstetric patients are uniquely different from other patient populations because there are two patients: the mother-to-be and her unborn child. The physiology of pregnancy creates additional potential complications, which may require specialty care provision from the OB team (Chagolla et al., 2013). The current communication and care collaboration deficits represent a significant gap in nursing practice at the project site between the ED and OB teams. The CPG with revised workflow has the potential to close the gap in practice when fully implemented. In Section 2, I delve into the background and context of this project.

Section 2: Background and Context

Introduction

EBP changes focus on taking best practices from evidence-based research and integrating clinical expertise into practice changes that meet the needs of the patients (Malloch & Porter-O'Grady, 2010). Fineout-Overholt et al. (2010) described EBP as a way to solve clinical problems through the use of the best evidence-based research integrated with clinical expertise in an effort to improve outcomes. With the noted practice problem—the lack of effective communication and care collaboration between the ED and the OB teams when pregnant patients present to the ED for care— an EBP solution was imperative. The practice-focused question that guided this project was the following: Will the development and use of a CPG facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED? The purpose of this doctoral project was, to develop and present a CPG inclusive of an evidence-based obstetrically focused algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients presented to the ED for care.

In order to bring about EBP changes, nurses and health care leaders need to seek out opportunities where gaps exist in nursing practice and support the change process to eliminate or reduce those gaps. Nursing leadership has the ability to facilitate this change process. Dogherty, Harrison, Graham, Vandyk, and Keeping-Burke (2013) discussed how best practices in health care are directly related to the implementation of EBP and the

facilitation of and implementation of the acquired evidence into practice. The leadership team of an organization can help with this facilitation process of moving evidence-based research into an EBP change.

EBP is molded by research (the highest form of evidence) as well as frameworks, models, and theories. Taken together, these help to support the EBP change. They help to guide the program planner through the change process, as well as to help in the choices of which interventions would work best. Likewise, research, frameworks, models, and theories assist in the development of different strategies and the creation of any materials that would save money and time (Hodges & Videto, 2011). Thus, in Section 2, I highlight concepts, research support, and use of chosen models and/or theories to frame this project.

Concepts, Models, and Theories

A number of concepts are relevant to the development of a CPG that addresses communication and collaboration between the OB and ED departments, including the following: (a) acuity based obstetric triage, (b) communication, (c) transitions in care, and (d) care collaboration. In these subsections, I present relevant research supporting the development of the CPG and its potential value in the project setting. I will also be discussing the relevant models and theories used in this project, which were Rosswurm and Larrabee's model and transition theory.

Acuity Based Obstetric Triage

Rapid maternal/fetal assessment by appropriately trained staff in obstetric care can assist in ensuring positive health outcomes for this patient population. Acuity based

obstetric triage can be accomplished through the use of a five-category obstetric triage acuity scale that focuses on a time-framed assessment of the maternal/fetal unit (Smithson et al., 2013). Likewise, having different triage categories can help ensure that legal issues are adequately addressed. For example, all EDs in the United States are subject to the Emergency Medical Treatment and Labor Act, which describes a set of rules guaranteeing that patients who visit an ED with an emergent problem are managed expeditiously. In addition, an obstetric triage acuity scale can help improve patient care flow and satisfaction rates (Angelini & Howard, 2014). Having a tool that aligns with EDs' emergency severity index (ESI), which is a five-category stratification scale rating severity from Level 1 (most urgent) to Level 5 (least urgent) (Gilboy, Tanabe, Travers, & Rosenau, 2011), and the Association for Women's Health Obstetrics and Neonatal Nurses' (AWHONN) maternal fetal triage index (acuity-based triage index) can assist in ensuring correct acuity, time-based maternal/fetal assessments. The AWHONN maternal fetal triage index (MFTI) had been validated as an appropriate index to follow when providing care to obstetric patients in an observational study that used a convenience sample of hospital obstetric nurses' in a large hospital that performed approximately 5,200 deliveries per year (Ruhl, Scheich, Onokpise, & Bingham, 2015a). The results of this study demonstrated the reliability of the MFTI for prioritizing care at a threshold of 0.60 kappa score and concluded with a recommendation for using MFTI in obstetric triage settings (Ruhl et al., 2015a). The obstetrically focused algorithm included with the CPG I created used information from both the ESI and the MFTI to support the prioritization levels in the algorithm.

Communication

Communication is paramount in providing safe, high-quality health care. Errors in communication have the potential to lead to negative patient care outcomes. Bramhall (2014) discussed effective communication skills and how these skills can result in positive outcomes when applied in the practice setting. Freitag and Carroll (2011) performed a pilot study with an SBAR handoff tool after performing a failure modes and effects analysis of patient handoffs in a 100-bed suburban community hospital setting. The results from the pilot study showed improvement in patient satisfaction by 4.4% and a decrease in infection and fall rates by 5%–34% with the use of a standardized SBAR handoff tool (Freitag & Carroll, 2011). Similarly, having an interdepartmental communication tool can lead to improved handoff between caregivers. Roberts, Putnam, and Raup (2012) conducted a quality improvement project to incorporate an SBAR handoff tool in an effort to decrease fall rates in a Magnet-designated hospital setting that participates in the National Database of Nursing Quality Indicators program. They found a decrease in fall rates from 5.01% to 1.55%, thus supporting the use of a standardized tool during handoffs and nursing communications (Roberts et al., 2012). Incorporating tools to improve nursing communication is vital, especially when providing care to the obstetric patient. Outcomes can be improved by ensuring early, frequent communication between the ED and OB teams. Chagolla et al. (2013) performed a systematic literature review and noted there were no published guidelines that addressed interdepartmental collaborative care when pregnant patients presented to the ED. This review also discovered 20 reports with ineffective interactions between the ED and OB teams

(Chagolla et al., 2013). This evidence provided support of the need to have a CPG that addressed interdepartmental collaborative care and communications between the ED and OB teams when pregnant patients present to the ED for care. Dusek et al. (2015) performed a systematic review of best practices involving care transitions that included 699 articles. Two separate research assistants appraised the research data independently for reliability and achieved a kappa score of 0.71. The researchers discussed the results obtained from the literature review and how the evidence showed that poor communication during care transition times leads to poor patient care outcomes and using EBPs can lead to optimal patient care outcomes during times of care transition (Dusek et al., 2015). The researchers in each of these studies found support for the need to have a CPG in place during interdepartmental communication and care collaboration times.

Transitions in Care

Transitions in care can occur at any point during a patient's care. These points of care transition have the potential to impact the patient on different levels and can lead to adverse patient outcomes. Certain measures and strategies can help improve this process, such as the following: (a) ensuring that all data are transferred in an accurate and organized fashion, (b) highlighting any deviations in patient status, (c) ensuring a tailored sharing of data from each person's perspective, and (d) have an open environment that encourages cross checks on shared information (Cheung et al., 2009). A CPG would help to ensure that these types of strategies occur. Horwitz et al. (2008) found that transitions in care during time of handoff from the ED and internal medicine department have the potential for serious negative patient outcomes in multiple areas, including

communication, information technology, and patient flow. Results from surveys to the emergency medicine house staff, physician assistants, internal medicine house staff, and hospitalists in the large urban academic center resulted in 29% reporting a near miss or adverse event during interdepartmental handoff (Horwitz et al., 2008). These researchers noted that communication was a key component to preventing near misses or adverse events, specifically interactive communication that occurs face-to-face and across specialties (Horwitz et al., 2008). Having a CPG in place to offer direction for interdepartmental care collaboration and communication could help assure that specialty focus is addressed and face-to-face communication occurs.

Holly and Poletick (2013) performed a systematic literature review on studies from 1988 to 2012, identifying 29 out of 50 qualitative studies that reviewed nursing handoffs that reported a 70% information omission rate due to a lack of standardized handoff process. The researchers found that, during handoff, certain social interactions and cultural interactions need to be addressed to ensure a cohesive and informative handoff; and, having a standardized handoff tool can improve patient care outcomes (Holly & Poletick, 2013). Likewise, Dusek et al. (2015) discussed how using EBPs during care transition times can lead to optimal patient care outcomes. Therefore, transitions in care are a priority to focus on in an effort to improve patient care outcomes. The created CPG would assist in improving interdepartmental care collaboration and communication, which would address the focus on ensuring safe care during times of care transition.

Care Collaboration

Care collaboration has the ability to enhance the level of care offered to patients. When attempting to improve patient care outcomes and satisfaction levels, bringing the specialized knowledge and skills of the OB team to the patient in the ED can help ensure the appropriate maternal/fetal assessment requirements are upheld. Different organizations have supported collaboration in care, such as the American College of Obstetricians and Gynecologists. This organization has directly recommended collaborative care between the ED and all other ancillary departments, including OB, with use of an obstetric triage setting (American College of Obstetricians and Gynecologists, 2016). Chagolla et al. (2013) discovered that obstetric patient care outcomes can be improved by ensuring early, frequent communication between the ED and OB teams, as well as by working collaboratively to ensure that all patient care needs are met. Collaboration in care ensures a teamwork approach to care. Weller et al. (2014) found that the evidence from a meta-analysis of 72 independent studies, which incorporated 4,795 teams, showed that improvements in teamwork in health care can lead to significant gains in patient safety, measured against efficiency of care, complication rates, and mortality. And, interventions done to improve teamwork in health care may be the next major advancement in patient outcomes (Weller et al., 2014). The created CPG would serve as an intervention to improve teamwork and improved interdepartmental collaborative care and communication.

Rosswurm and Larrabee's Model

The chosen framework for this doctoral project was Rosswurm and Larrabee's model, which is directly related to changing nursing practice based on validated evidence. There are six phases involved in Rosswurm and Larrabee's model (Terry, 2015) that were beneficial during this practice change. The first phase is assessing the need for a change in practice, led to a clear description of the problem and a full description of the project purpose, all summarized in Section 1. In the first phase, I observed the gap in nursing practice occurring at the project site with regard to obstetric patient care in the ED. There were several patient incidents involving pregnant patients in the ED, such as a patient with high blood pressure seizing and needing to have an emergent delivery. Unfortunately, this information was never communicated to the OB team until the obstetrician called the OB unit. The second phase, linking the problem with nursing interventions and patient-care outcomes helped to guide the development of the CPG. The second phase included the support of the literature review, as well as what needed to be incorporated into the CPG based on the existing literature, such as including an obstetrically focused prioritization algorithm. The third phase, synthesizing the best evidence, helped throughout the creation of the obstetrically focused algorithm to ensure alignment with existing evidence on prioritization for patient care/assessment. In the third phase, I created the prioritization levels of the obstetrically focused algorithm portion of the CPG to align with the prioritizations in the ESI and AWHONN MFTI. The fourth phase, designing the practice change, was characterized by the creation of the CPG. The fourth phase was realized as a result of the discussions with ED and OB leadership,

educators, and charge nurses and characterized by revisions of the CPG to meet the needs of the participants (the ED and OB staff members). To do this, I took the information gained during the literature review and created questions to ask the discussion groups regarding how to improve care for pregnant patients in the ED and how they viewed full CPG implementation. The fifth phase, implementing the practice change, will occur outside of the scope of this project. And, the sixth phase, integrating and maintaining the change in practice, will also occur in time after full implementation of the CPG by the project setting. The sixth phase will be achieved by following the recommendations realized during the project, which will need to be completed to have a successful and sustainable implementation.

When working on creating a proposed change in nursing practice, such as the chosen project practice change—to create a CPG inclusive of an evidence-based obstetrically focused algorithm to improve communication and care collaboration between the ED and the OB department when pregnant patients present to the ED for care—I used the six steps in Rosswurm and Larrabee's (1999) model. These steps were beneficial as a systematic method to assist in achieving a successful change development and presentation.

Transition Theory

The theory I used to support this project was transition theory (Meleis, Sawyer, Im, Hilfinger Messias, & Schumacher, 2000). Nursing is often focused on the interactions and experiences between patients and nurses during transitions to optimize health outcomes according to this theory. Meleis et al. (2000) explained that these transitions in

care can occur at any point during the care delivery process and can impact the patient's level of satisfaction and health outcome if not handled appropriately.

Transition theory was applicable for the proposed nursing practice change, as improved communication and care collaboration have a direct impact on patient satisfaction levels and health care outcomes. Each transition that a patient experiences, such as with a change in care provision from the ED staff to the OB staff, can have an impact on that patient's experience. The staff who interact with patients need to have an awareness of how they can contribute to a positive patient experience during these times of transition. Having a method or tool in place that will ensure a more cohesive transition between the ED and OB teams when pregnant patients arrive in the ED can improve these patients' experiences. Thus the practice change of the development and presentation of a CPG inclusive of an obstetrically focused algorithm for use by the ED and OB nurses when pregnant patients present to the ED for care could and should continue to help improve communications and care collaboration between the ED and OB teams, and in doing so, assist in improving these patients' experiences during these times of transition.

Evaluating the Evidence in the CPG

Fineout-Overholt et al. (2010) developed a model that was chosen to evaluate the evidence used in the CPG. The benefit of this evaluation model is that it can be used to appraise the literature obtained during a literature review, to keep track of the following: (a) why the study/studies were done; (b) the study sample sizes; (c) the validity and reliability of any instruments used; (d) how the data were analyzed; if there were any untoward events during the study; (e) how the results fit with any previous research in the

area; and, (f) what that research means for clinical practice (Fineout-Overholt et al., 2010).

In order to provide adequate support from the research literature for this project, the focus was on peer-reviewed research studies that were systematic reviews, meta-analyses, and randomized control trials, with experimental or quasi-experimental designs. The review also included systematic reviews of qualitative or descriptive studies and expert opinions, as these supported the relevance to nursing practice. In the Fineout-Overholt et al. (2010) model, these reviews are included as Levels I, II, III, IV, V, VI, and VII. During the development of the CPG, I used this model to appraise the research studies found during the literature review process (see Appendix A).

Relevance to Nursing Practice

The Institute of Medicine (IOM) released a report in 2010 that listed several recommendations to advance nursing practice. One of these recommendations, Recommendation 2, stated: Expand opportunities for nurses to lead and diffuse collaborative improvement efforts. This recommendation focused on all levels of public and private organizations and associations involved in health care to increase nursings' impact and abilities to take a collaborative role in leading, managing, and promoting evidence-based research and practices in an effort to improve health care practice settings (Institute of Medicine, 2010). This project worked on achieving this recommendation in the project setting through the creation and presentation of the CPG that included an obstetrically focused algorithm which promotes a collaborative care approach.

Nursing staff play a pivotal role in improved patient care outcomes. Communication and collaborative care are two avenues that nursing uses to impact achievement of optimal patient care. This project has the potential to improve communication between the ED and OB team members when pregnant patients present to the ED for care once the CPG has been fully implemented. The CPG includes an obstetrically focused algorithm that guides the prioritization for maternal/fetal assessments for the OB team. This prioritization was based on AWHONNs MFTI, which, is a five-category obstetric triage acuity scale; as well as aligning with the ED's ESI, which, is a five-category stratification scale that EDs use for prioritization of patients in the ED. Both of these have been validated indexes for care provision (Ruhl et al., 2015b). The AWHONN MFTI has been validated as an appropriate index to follow when providing care to obstetric patients in an observational study that used a convenience sample of hospital obstetric nurses' in a large hospital that performed approximately 5,200 deliveries per year (Ruhl et al., 2015a). The results of this study proved the reliability of the MFTI for prioritizing care at a threshold of a 0.60 kappa score and concluded with a recommendation for use of the MFTI in obstetric triage settings (Ruhl et al., 2015a). Smithson et al. (2016) conducted a study involving a review of patient records from 2011 to 2012 on length of stay (LOS) in obstetric triage in order to assess the benefits of implementing a standardized 5 category Obstetric Triage Acuity Scale (OTAS). The researchers showed a median triage timeframe of 105 minutes prior to implementation of usage of the OTAS, and after implementation the median triage timeframe decreased to 98 minutes, which was a 6.9% reduction in LOS with use of the

standardized OTAS (Smithson et al., 2016). Angelini and Howard (2014) performed a systematic review from 1998-2013 that involved a review of both peer-reviewed and non-peer-reviewed publications focused on obstetric triage, obstetric emergency room, obstetric services, and obstetric emergency care. These researchers described how having a triage category-based system in place can assist in improving patients' satisfaction levels and improve patient care flow based on acuity and time frames placed on those acuity identifiers (Angelini & Howard, 2014). The overall study provided support for utilization of guidelines that are acuity and time based in an effort to afford improved patient care flow and outcomes (Angelini & Howard, 2014). Utilization of the project CPG promotes rapid maternal/fetal assessment using a priority, time-based algorithm by appropriately trained obstetric staff which helps to ensure positive health outcomes for this population of patients.

Local Background and Context

The project facility site's ED team provides care to greater than 104,000 patients per year, and the OB team delivers greater than 5,000 patients per year, with a vast majority being high risk pregnancies. The patient satisfaction scores which have a set goal of 95% for rate the hospital and for recommend the hospital have been inconsistent and fluctuating heavily during high volume times over the past 6-month period (from October, 2018 through April, 2019), with timeliness of care being consistently low (between 38–82%). On average, this site provides for multiple non-pregnancy related patient care cases on a daily basis (1–4 cases/day). An average of 50% of these patients complained to the OB team members about their length of stay in the ED waiting for care

and OB clearance. Some patients had reported being in the ED for as long as 5 hours before anyone assessed their baby (fetal assessment). The average timeframe in the ED (which includes time from arrival until either admission/transfer to another department/or discharge) at the project site is between 50–180 minutes, with longer timeframes during high volume times of the day, such as weekend evenings into early nighttime hours (1800–2300). The regional averages range from 55–310 minutes (Centers for Medicare and Medicaid Services, 2019). Maternal/fetal assessment is imperative to ensure fetal well-being anytime care is provided to a pregnant patient. Yet currently, there is no established timeframe in which this maternal/fetal assessment should occur for non-obstetric care complaints. This remains an area of patient dissatisfaction, and an area of maternal/fetal assessment need. With the focus from national organizations, such as the IOM and the Joint Commission on improving health care outcomes (Joint Commission, 2012), there needs to be improvements made to address communication and care collaboration in health care settings. The project CPG would assist in addressing this area of need, and help to improve pregnant patients' experiences and potentially their health care outcomes during their ED care visits.

Role of the DNP Student

The role of the DNP student is to address the noted gap in nursing practice through the DNP project. I am employed at the project site as an OB nurse and have noticed over the past several years that there was a gap in nursing practice at an interdepartmental level between the ED and OB teams when pregnant patients presented to the ED for care. I have served as the project facilitator working with the leadership

teams in both the ED and OB departments to address the noted gap in practice. I am deeply motivated to improve interdepartmental care collaboration and communication as this has a direct impact on the patients' experiences and outcomes. I truly believe in positive social change, and that this project has the potential for achieving positive social change at the project site. The CPG has the potential to be used in other settings with similar patient populations, thus influencing care on regional, state-wide, and global levels. From an OB nurse perspective, I have a vested interest in ensuring that every pregnant patient receives the best experience and outcomes possible. Every woman remembers her pregnancy and birth experiences, and any interactions that occur during these times are carried with her. When providing care to a pregnant woman, understanding how that care can impact her unborn fetus is vital to ensuring optimal health outcomes for both the patient and her unborn child. Because the CPG is evidence-based, it has the potential to influence the gap in nursing practice at the project site. Therefore, ED and OB team members can potentially improve both patients' experiences and health outcomes through the use of the CPG as a tool that guides interdepartmental collaborative care based on acuity prioritization.

The potential biases that I may possess are: the OB team is able to provide a better patient experience to pregnant patients, and that the ED team does not have a thorough understanding of pregnancy physiologic changes that can impact the maternal unit. I am addressing these potential biases by working directly with the ED nursing team to understand the care and patient experience through their perspective and offering any knowledge and guidance needed from an OB nursing perspective to those ED nurses in

regards to the physiologic changes in pregnancy and how these changes can impact the maternal unit.

Summary

The gap in practice is: a lack of interdepartmental care collaboration and communication between the ED and OB teams when pregnant patients present to the ED for care. The results of the literature congruently demonstrated that communication and collaboration in care should be used when attempting to ensure optimal patient care outcomes. High risk patient populations, such as the pregnant population, require specialized knowledge and skills that the ED staff may not have, making collaborative care with the OB staff imperative in order to ensure the required maternal/fetal assessment is completed in a timely manner. The literature has also shown that having a CPG tool in place to assist the ED and OB staff with communicating and collaborating care provision for pregnant patients when this population presents to the ED for care, should be integrated into nursing practice in order to optimize the patient's experience. Through collecting and analyzing the evidence from this project, the noted gap in nursing practice at the project site should be addressed through use of the created CPG. In section 3 I will provide details on the method used to develop the CPG and processes used to introduce it to the ED and OB nurse leadership, seek their support, and determine needed revisions to the CPG and any needed recommendations.

Section 3: Collection and Analysis of Evidence

Introduction

A gap in practice was present at the project site, which could be described as a lack of effective communication and care collaboration between the ED nurses and the OB nurses, resulting in long patient delays and compromising patient satisfaction, resulting in frequent patient complaints and less than optimal patient care on a consistent basis. The purpose of this doctoral project was to develop and present a CPG inclusive of an evidence-based obstetrically focused algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients present to the ED for care.

The project facility site's ED team provides care to greater than 104,000 patients per year, and the OB team delivers greater than 5,000 patients per year, with a vast majority involving high-risk pregnancies. The patient satisfaction scores have a set goal of 95% for rate and recommend the hospital but have been inconsistent and were not meeting the 95% goal, and there was an average of 50% of pregnant patients offering complaints to the OB staff on how long they were waiting in the ED. In an effort to create a change in nursing practice that can improve patients' experiences and health outcomes, for this project, I created and presented a CPG with an inclusive obstetrically focused algorithm. In Section 3, I will discuss the following areas: (a) the practice-focused question, (b) the sources of evidence, and (c) analysis and synthesis of the evidence.

Practice-Focused Question

The local problem was a gap in practice present at the project site that can be described as a lack of effective communication and care collaboration between the ED nurses and OB nurses, resulting in long patient delays and compromising patient satisfaction, resulting in frequent patient complaints and less than optimal patient care on a consistent basis. The practice-focused question was: Will the development and use of a CPG, facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED? The purpose of this doctoral project was to develop and present a CPG inclusive of an evidence-based obstetrically focused algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients present to the ED for care. The creation of a CPG aligns with addressing the practice-focused question by providing a tool for the ED and OB teams to use as a guide for practice when pregnant patients present to the ED for care. The CPG includes an obstetrically focused algorithm that enables the OB team to provide prioritized, acuity-based timely maternal/fetal assessments, that will help reduce delays in maternal/fetal care and, in doing so, assist in improving these patients' experiences.

Sources of Evidence

To address the practice-focused question, I used various sources, including journal articles, books, organizational recommendations, and websites that covered a variety of evidence levels that supported the development process of the CPG (see Appendix A). In addition, evidence generated for the doctoral project included results

from small discussion groups held with the ED and OB leadership, charge nurses and educators. For the project, I used this evidence to find the information and support needed to address the practice-focused question. My literature review provided the evidence needed to support and create the CPG. The small discussion groups assisted me in discovering how the practice problem was impacting the different departments and staff; and, determining if the CPG would be beneficial to patients' experiences as well as to the ED and OB staff and departments. The consensus of the participants was that a change was needed and the CPG would facilitate effective interdepartmental communication and care collaboration for the chosen population, but there were areas of concern that need to be addressed to have a successful implementation.

Collection and analysis of this evidence partially assisted me in providing appropriate ways to address the practice-focused question: Will the development and use of a CPG facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED? In order to completely address the practice-focused question, full implementation would need to occur, but that is outside the scope of this project.

I used a qualitative descriptive design during this project. I chose this method because this study focused on new knowledge development to address a gap in nursing practice from the perspective of the teams involved in the practice change. Qualitative descriptive designs are used in research involving nursing phenomena (Hyejin, Sefcik, & Bradway, 2017). This type of design affords the researcher the opportunity to delve into the insights or thoughts on a phenomena from the individuals involved. Gaining a deeper

understanding of the issues occuring can lead to corrective actions or the creation of a practice change.

Published Outcomes and Research

The literature review included ample evidence supporting effective communication and care collaboration involving high-risk patient populations in order to achieve optimal patient care outcomes. For this project, I used Fineout-Overholt et al.'s (2010) model critical appraisal of the evidence to assess the literature discovered during the literature review process (see Appendix A). The following databases were used to find outcomes and research related to the practice problem: (a) National Institute for Health and Care Excellence, (b) the Cochrane Library, (c) PubMed, (d) Medline, (e) CINAHL, (f) Walden University's Library database, and (g) Google Scholar. During the literature review process, I used key words, search terms, and combinations of search terms or Boolean phrases, which included *emergency department* and *obstetric patients, obstetric patients* and *algorithm, obstetric patients* and *triage, pregnancy* and *risk assessment, transitions in care* and *emergency department, communication* and *patient safety, communication* and *patient safety* and *obstetric patients, handoff* and *emergency department, intraprofessional* and *obstetrics, evidence-based practice* and *care transitions,* and *interdepartmental care collaboration*. These search phrases led me to gather comprehensive information during the literature review process.

The scope of my review covered literature from 2008 through 2016 and included both peer-reviewed and non-peer-reviewed studies, controlled trials without

randomization, systematic reviews of qualitative or descriptive studies, and expert opinions or consensus from OB related organizations.

Evidence Generated for the Doctoral Project

This project culminated in the creation and presentation of a CPG to improve communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care (see Appendix B). I created this CPG to address the noted gap in practice involving communication and care collaboration between the ED and OB teams when pregnant patients present to the ED for care. Through alignment with the AWHONN MFTI and the ED's ESI, I developed the CPG to offer both of these departments needed guidance in improved communication and care collaboration (see Appendix B).

Participants. I held three small discussion group sessions that included leadership, charge nurses, and educators from both the ED and OB teams. The discussion groups included both day and night shift team members from both departments. There were a total of 57 participants invited to attend the small discussion group sessions, and 51 nursing staff members participated in the sessions: 28 from the ED team and 23 from the OB team. The participants were chosen from the leaders, charge nurses, and educators in an effort to obtain a sampling of stakeholders involved in the nursing practice change areas (ED and OB).

Procedures. The small discussion group sessions occurred at the project facility site in private office/conference room settings to ensure the sessions were uninterrupted and private. An administrative assistant collected the data during these small discussion

group sessions by taking concise notes in a Word document on my private computer, with direct quotes transcribed to ensure that each participant's experience and concerns were recorded and that all qualitative data were adequately captured. These notes were provided to me without linking them to an individual's name to assure anonymity in the data analysis. During these discussion group sessions, I introduced the CPG with example case studies that had previously occurred in the project facility site providing support to the need for the change. The essence of the CPG was presented using the AWOHNN MFTI algorithm (Figure 1), as well as a narrative summary and a customized work flow (see Appendix B).

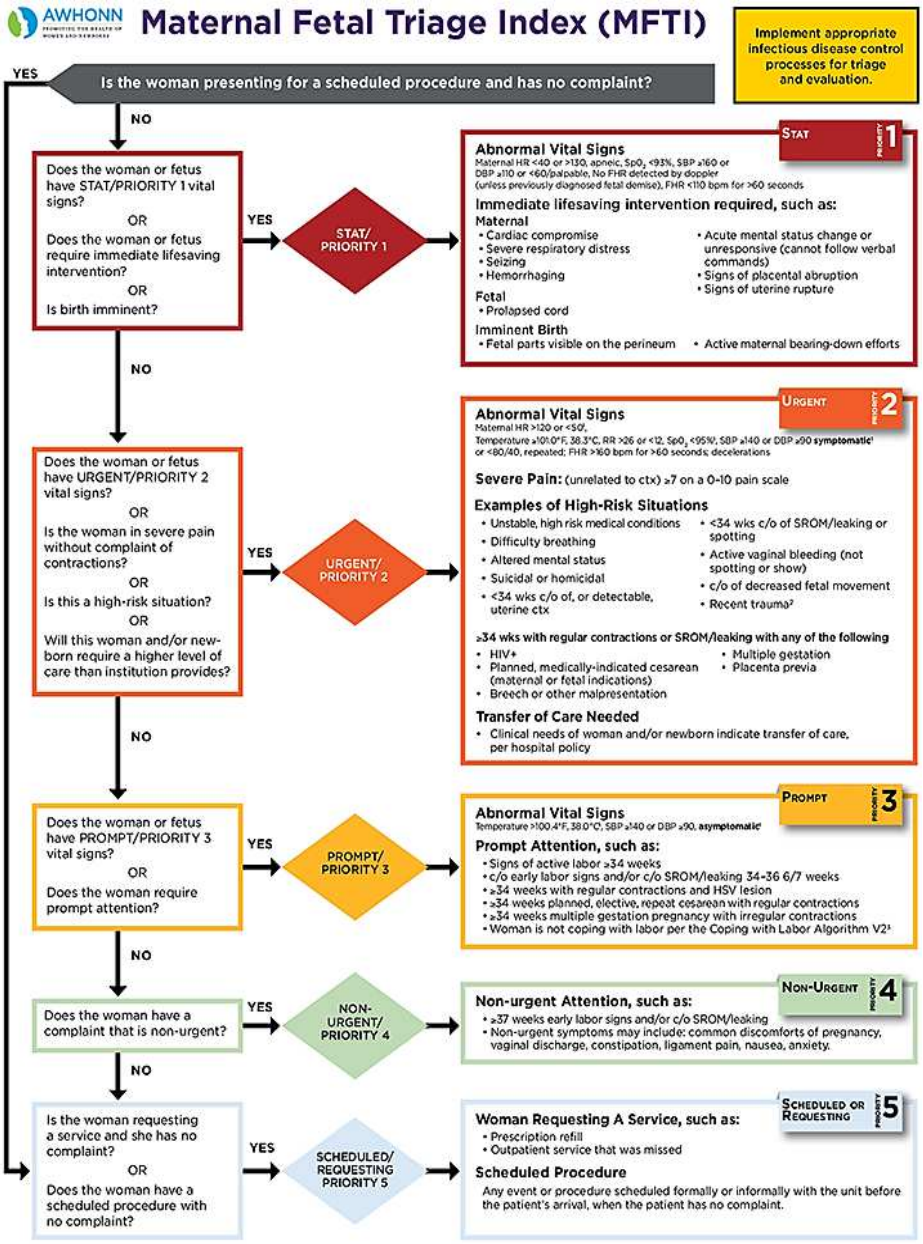

Figure 1. Association for Women's Health Obstetrics and Neonatal Nurses' Maternal Fetal Triage Index (2017), used with permission.

Additionally, information was gained from the participants during the discussion group sessions on the potential benefits and barriers to implementation of the CPG. The discussion and responses during this process helped to guide this project design.

Protections. Since I was using research methods during the project, the project facility site required that its own IRB had to review the project and either offer a waiver/exemption from its IRB or a full approval in order to ensure that all participants during this project were protected. I received a full approval that I then sent to Walden University's IRB as an attachment to the Walden University IRB application. I obtained a full approval from Walden University's IRB on 4/11/19- with the following approval # 08-15-18-0349729. The strategy I used to recruit the participants was having the leadership of the ED and OB teams ask their respective charge nurses and educators if they would be willing to attend one of three small group discussion sessions with the knowledge that their attendance meant they were willing participants and that their anonymity would be protected. During the small group discussion sessions, no identifying factors were imbedded in the data collected to ensure protection of anonymity of the participants. The data collected will remain in an encrypted format in one private computer with no identifying factors in order to ensure anonymity is provided for the participants. I offered no incentives to the participants for their involvement in the small group discussion sessions, and at the beginning of the sessions it was reiterated that anyone could withdraw their participation at any time and leave the discussion session or choose not to respond to any of the questions asked.

Analysis and Synthesis

The project entailed collecting data during the small discussion group sessions. This was direct feedback from the ED and OB teams on the CPG, and the following three questions: (a) How will the CPG impact care collaboration between the ED and OB

teams for the chosen population of patients? (b) How will the CPG affect times within or turnaround time in the ED/admission/discharge processes? (c) How could the CPG impact patient care or patients' experiences? The system I used for recording the data was a live time transcription of the dialogue and feedback during the small discussion group sessions. An administrative assistant collected the data obtained during these small discussion group sessions by taking concise notes in a Word document on my private computer, with direct quotes made to ensure that each participant's experience and concerns were recorded and that all qualitative data were adequately captured. These notes were provided to me by the administrative assistant without linking them to an individual's name, to assure anonymity in the data analysis. There was also a third person objective party present in each of the discussion group sessions who reviewed the data obtained. This was done to ensure trustworthiness of the data that were recorded in the written document accurately portrayed the dialogue and feedback from the discussion group participants. The system used for tracking and organizing the data was ensuring that all the data were collected on my personal computer on one rolling Word document with the different dates listed for each of the small discussion group sessions.

The procedures that I used to ensure the integrity of the evidence were live time transcription of the discussion group sessions by an administrative assistant into a Word document on my private computer. During the discussion group sessions, if there was any point when the participant responses were overlapping the administrative assistant signaled me by raising her hand which meant for me to repeat the question and ask for one response at a time. The data were then reviewed to ensure that all of the participants'

thoughts and views from the questions were captured in the data to prevent missing information. And lastly, the third person objective party present in each of the discussion group sessions reviewed the data obtained to ensure trustworthiness of the data that were recorded in the written document accurately portrayed the dialogue and feedback from the discussion group participants.

The system that I used to analyze the evidence followed the in vivo process (Saldana, 2016) to be able to identify out codes from the narrative transcript from the small discussion group sessions. No software was used during this process. All of the data were collected in single spaced transcription in a Word document on my personal computer for a total of 12 pages of data collected. The analysis procedures used in the DNP project to address the practice-focused question from the data collected during the small discussion group sessions was coding, categorizing, and obtaining commonality themes. Saldana (2016) described the coding and categorizing process as a method to synthesize qualitative data from the verbalized or visualized format into a more explainable meaning that may become a larger concept or theory.

Summary

The collection and analysis of the evidence offers an opportunity to discover what is already known on a subject in order to guide the practice change process. This is the time to perform all procedures related to the project, and then analyze the information gained. The qualitative descriptive approach provided keen insight as to how the ED and OB staff felt about the CPG and their initial impressions as to how the CPG would impact patient care, patients' experiences, and collaborative care between the ED and OB teams

if fully implemented. This method provided a greater understanding of how this project impacted the chosen participants and is summarized in the findings and recommendations in section 4.

Section 4: Findings and Recommendations

Introduction

The DNP project culminates into recommendations and a potentially achieved change in nursing practice. This occurs after the findings have been obtained and analyzed and the project setting has implemented those recommendations. The gap in nursing practice at the project facility site was the lack of consistent interdepartmental communication and care collaboration between the ED and OB teams when pregnant patients presented to the ED for nonobstetric care. The problem also involved a lack of prioritization from the OB team to provide maternal/fetal assessment aligning with the patient complaint or care needs, both of which led to increased length of stay in the ED, increased patient complaints, and decreased patient experience, which included less than optimal achievement of patient care provision related to timeliness of maternal/fetal assessment. This gap led to the following practice-focused question that helped to guide the project: Will the development and use of a CPG facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED? The purpose of this project was to develop and present a CPG inclusive of an evidence-based obstetrically focused algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients presented to the ED for care.

Summary of Sources of Evidence

For the project, I used journal articles, books, organizational recommendations, and websites that covered a variety of evidence levels that supported the development process of the CPG. I obtained this evidence through a literature review, with the literature appraisal completed using Fineout-Overholt et al.'s (2010) critical appraisal of the evidence (see Appendix A). I obtained additional evidence data during multiple small group discussion sessions with ED and OB team members; the data were then broken down for analysis through coding, categorizing, and commonality themes.

Findings and Implications

The project involved findings from small group discussion sessions. The results of the discussion group sessions had direct implications on addressing the practice-focused question. All of the small group discussion session participants were asked the same three questions. (a) How will the CPG be beneficial to improving care collaboration between the ED and OB teams for the chosen population of patients? (b) How will the CPG lead to decreased time within or turnaround time in the ED/admission/discharge processes? (c) How will the CPG lead to improved patient care/patient experiences?

There were 51 participants who attended the small group discussions. Of these, only six members of the ED team were not present, and the majority was from the OB areas. Though this is a substantial number, it only represents over 29% of the total OB team and 73% of the ED charge nurse team. The discussion was rich in feedback and recommendations. Although there were some people missing from the discussions and

additional sessions may be needed, the feedback was plentiful and overall supportive of the CPG.

I used qualitative methods to summarize the data from the narrative discussion. In general, all participants acknowledged their desire to improve patient flow and recognized the need for a fetal assessment, which ED nurses admitted was beyond their expertise. One ED nurse remarked, “I don’t know enough about pregnancy care to know if or when fetal monitoring is needed.” Another ED nurse stated, “We never know who to call and let know that these [pregnant] patients are here.” Another participant commented, “We all want best outcomes; we just need to find a way to work together.” Likewise, the OB nurses generally iterated how there are times when the patients have complained to them about how long they waited in the ED to be seen by an OB nurse. An OB nurse stated, “We want to provide the necessary fetal monitoring but need to be informed that the patient is there.” And multiple nurses said, “It would help to improve the patient’s experience if they didn’t have to wait for OB clearance or be bounced between the two departments.”

Staff members in the discussion groups noted obstacles toward the CPG achieving its desired purpose. These were described by the ED and OB team members as barriers in their individual departments. The ED team described limitations to implementation of the project. First, a large number of newer staff members do not know who to contact in the OB department. Second, a high volume of high acuity patients in the ED department may make it too busy to call. In addition, there is not a specifically designated person to call,

so everyone thinks someone else already called. Finally, ED staff may not know where to look in the patient's EHR to see if the OB staff have seen/assessed the patient.

The OB team described concerns or limitations to implementation of the project. First they noted that the high volume/high acuity in the OB department sets up a scenario where there are times when there may not be anyone available to go to ED to provide maternal/fetal assessment. There are also equipment deficits, as there is only one portable off-unit fetal monitor available, which only allows one patient off the OB unit at a time to be monitored (i.e., electronic fetal monitoring to assess fetal status/well-being). Finally, a large number of newer staff members do not have the knowledge of the off-unit monitoring process, the OB RN role during the process, or how to report maternal/fetal assessment for off-unit monitored patients. These barriers will need to be addressed to achieve full implementation of the CPG. Some of the limitations are educational needs of staff, while others require financial support.

Coding was the first step in the analysis process. This involved looking over all the data from the small discussion group sessions and breaking that information down into codes. Question 1 asked: How will the CPG impact care collaboration between the ED and OB teams for the chosen population of patients? These are examples of the data obtained in response to Question 1:

Participant 1: "The CPG definitely has the potential to improve care collaboration between the ED and OB teams for the chosen population with the clear guidance listed in the CPG, but some staff doesn't know who to call or when to call the OB team."

Participant 2: “I feel that the CPG can help improve care collaboration between the ED and OB teams for pregnant patients in the ED as it is very easy to understand, but sometimes it is too busy to send someone to the ED to monitor the patient.”

Participant 3: “I believe that the CPG will definitely benefit both departments as a guide to collaborative care and help improve communication for this group of patients since it is formatted in an easy to understand way, but we only have one off-unit fetal monitor to use and if it is already in use, we don’t have another monitor to use.”

Question 2 asked: How will the CPG affect times within or turnaround time in the ED/admission/discharge processes? These are examples of the data obtained in response to Question 2:

Participant 1: “I believe that the CPG has the ability to decrease the times within the ED from arrival to discharge as we are sometimes only waiting for the OB team to provide OB clearance in order to discharge the patient, but sometimes the OB team states that they are too busy to send someone when we call.”

Participant 2: “I feel that the CPG can provide the guidance needed to get the appropriate care needed for pregnant patients, either in the ED or moving them rapidly to the OB department, but sometimes we are too busy to go to the ED to assess the patient.”

Participant 3: “I feel that the CPG can help improve turnaround times in the ED for this population of patients, however, we have a large volume of new nurses who don’t know who or when to call in the OB department.”

Question 3 asked: How could the CPG impact patient care or patients’ experiences? These are examples of the data obtained in response to Question 3:

Participant 1: “I feel that the CPG could impact patient care by having improved patient safety related to knowing that the fetus is not being compromised by the care being provided to the patient.”

Participant 2: “I feel that the CPG can help improve patients’ experiences by allowing a quicker assessment and care provision timeframe so the patient isn’t stuck in the hospital longer.”

Participant 3: “I believe that the CPG can help improve the patients’ experience since it encourages a collaborative approach to care, having the OB team come to the ED while the patient is being cared for in the ED prevents having to send the patient to the OB department afterwards, and this decreases the patient’s time in the hospital.”

Five codes emerged from the responses: (a) *staff knowledge and deficits*, (b) *ED staff fears*, (c) *high volume*, (d) *lack of clarity*, and (e) *inadequate equipment*. Using NVivo, these codes were then categorized into the following three categories: (a) *education*, (b) *prioritization*, and (c) *equipment*. And, finally one theme emerged: *pre-implementation needs*. The narrative from the staff, when summarized using codes, categories, and themes, formed the model in Figure 2 below.

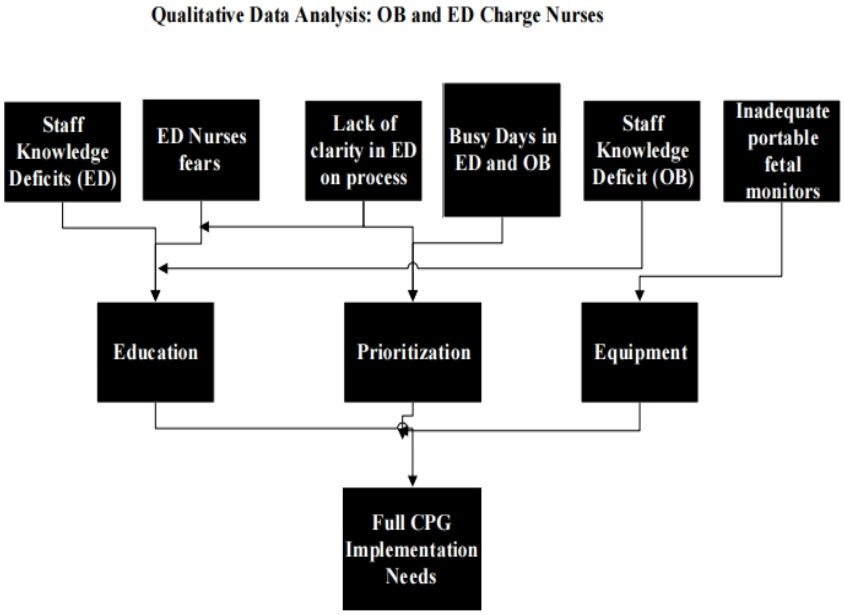

Figure 2. Qualitative Analysis of narrative responses to CPG

Implications of Findings

The implications resulting from the findings can impact at the organizational, local, state, national, and global levels. The findings support the need for interdepartmental care collaboration for this high-risk patient population when having non-obstetric care provided outside the OB department. The project facility site places safe, high quality, customer focused care as its top priorities, thus making the findings from this project applicable to achieve optimal care outcomes for this health care organization. The described gap in nursing practice for this population of patients could occur at any health care organization locally, on the state level, nationally, or globally;

therefore, the findings could have similar impacts on the patient experience and outcomes outside the project facility site.

Implications for Positive Social Change

Communication and care collaboration are supported by the evidence from this project. Health care has been scrutinized to discover the processes that have resulted in less than desirable results or negative patient care outcomes (Weller et al., 2014). The project can assist in positive social change through improvement in patient experiences, as well as improved high-risk patient care outcomes related to consistent acuity/time based maternal/fetal assessment.

Recommendations

The gap in nursing practice at the project facility site was primarily the lack of consistent interdepartmental communication between the ED and OB teams when pregnant patients present to the ED for care. The gap can potentially be closed through full implementation of the developed CPG that has been presented to the ED and OB teams. This will require unit and organizational support, as it entails additional staff education and purchase of at least one additional portable fetal monitor for off unit fetal monitoring. The CPG has been developed to align with the AWHONN MFTI and with the ED's ESI for prioritization based on acuity and time standards of care. The CPG and attached obstetrically focused algorithm were provided to the ED and OB leadership and educator teams in the discussion groups on how to follow the flow of the attached algorithm. There were no unanswered questions related to the CPG during these sessions. As the DNP student and project leader, I have pledged my availability to both the ED and

the OB teams to address any future educational needs related to the CPG. Full implementation requires adherence to certain recommendations if successful implementation is to occur. In the ED, the following recommendations will need to occur: (a) educate all staff RNs and Paramedics in the triage area and fire rescue call area to call a single number which is the OB department Clinical Manager/Charge Nurse number upon patient arrival with the patient's complaint, estimated gestational age, obstetric care provider's name, where the patient will be placed in the ED, and document in the patient's EHR of the notification to the OB team; and, (b) Post a visible sign in the triage and fire rescue call areas of the one number to call to notify the OB team (OB Clinical Manager/Charge Nurse). In the OB department, the following recommendations will need to occur: (a) educate the OB team to have direct communication with ED primary RN when maternal/fetal assessment is completed and any follow-up needs for the patient based on that assessment/orders received from OB practitioner; (b) begin training new staff (with at least 1 year of OB experience) on off unit fetal monitoring process/the OB RN's role during off unit fetal monitoring; (c) submit a capital request from finance for the purchase of at least one additional portable fetal monitor for off-unit fetal monitoring; and, (d) designate one OB RN for each shift (24/7) as the resource nurse for the shift-who will be either unassigned or minimally assigned (one low acuity patient) to be able to respond to ED/off unit maternal/fetal assessment needs. Once completed, these recommendations should provide for a successful and sustainable implementation that addresses the noted gap in nursing practice and the concerns the nurses raised during the small discussion group sessions.

To measure the impact of the CPG on the patient's experience, two measurements are available for use. The first recommended measurement is related to the time a pregnant woman spent in the ED prior to decision-making about admission or discharge to home. Archival and operational data are available in the electronic health record (EHR) and can be used to determine this time measurement. The second recommended measurement is related to whether the OB team adhered to the priority indexes within the CPG (on the obstetrically focused algorithm) which would be done as a result of full implementation of the CPG over a period of time (i.e. 3 months before the full CPG training and 3 months after). Additional data in the form of patient satisfaction data and patient complaints can be evaluated for the same 6-month timeframe after full implementation occurred. These data will be recommended for full evaluation of the CPG once the barriers are addressed and the CPG fully implemented.

Implementation and Evaluation

Implementation of the CPG will assist the project facility site in improving patient experience and patient care outcomes. This implementation can be achieved through the described recommendations along with use of the CPG and attached obstetrically focused algorithm. In order to determine if the CPG has successfully addressed the practice problem, the change in nursing practice will need to be evaluated. The evaluation process has been described as gathering all information related to the program/project activities and outcomes in order to ascertain the level of success or if any improvements are needed to achieve a successful implementation and sustainability (CDC, 2012). In order to evaluate the impact of the CPG, measurements will need to be obtained. The first

measurement is related to the time a pregnant woman spent in the ED prior to decision-making about admission or discharge to home. Archival and operational data are available in the patient's EHR and can be used to determine this time measurement. This would entail using the EHR to note the time of patient arrival against the time of notification from the ED team to the OB team to assess if this is happening upon patient arrival. The next time difference would also be obtained from the EHR, which is the difference in time from ED team notification to the OB team until the OB staff member(s) is at the patient's bedside to perform maternal/fetal assessment. The second measurement is related to whether the OB team adhered to the priority indexes within the CPG (on the included obstetric algorithm) which would be measurable by looking at the patient complaint against the CPG's obstetric algorithm priority levels. The recommendation would be to perform these measurements over a period of time (i.e. 3 months before the additional CPG training and 3 months after) to evaluate the adherence and effectiveness of the CPG. Additional recommended data evaluation would be in the form of patient satisfaction data and patient complaints which should also be evaluated for the same 6-month timeframe after full implementation occurred.

Strengths and Limitations of the Project

The strength of this project is its applicability. The created CPG is able to be used in any health care organization that has an ED and OB department. The CPG supports EBP which aligns with validated national indexes, the AWHONN MFTI and the ED's ESI. And, the CPG assists in improving interdepartmental communication and care collaboration, which has been listed as improvement needs by both the Joint Commission

as it relates to transitions in care from a collaborative stand (Joint Commission, 2012), and by the IOM's recommendation, as it relates to nursing's role in finding innovative opportunities to assist in improved health care outcomes (Institute of Medicine, 2010).

The limitations of the project are: the project was done in one health care setting (one large tertiary care hospital) that has independent ED and OB departments and teams which may make it less applicable in smaller health care settings; the project only involved input from the leadership and educators from the ED and OB teams instead of the entire staff from these units which may impact buy-in from the involved staff members; and, the CPG was developed and presented but not implemented, which prevented being able to evaluate the benefits offered from the CPG. A future QI study on the effective outcome of utilization of the CPG by completing the evaluation measurements is a recommended follow up from this project.

Summary

The project findings supported interdepartmental care collaboration, which the CPG addressed. Having a CPG tool to use will assist the ED and OB teams in improving communication and care collaboration for pregnant patients in the ED. The data also brought forward distinct recommendations that will need to be addressed before full implementation can occur that relate to equipment, prioritization, and education for the full staff. Recommendations included methods to measure the success of the CPG once full implementation has been achieved.

Section 5: Dissemination Plan

Dissemination Plan

To disseminate this project to the project facility site/organization, I will have direct meetings with the leadership of the ED and OB departments. Each meeting will need to have enough time allotted to review the information obtained during the project, review the benefits, limitations/barriers, and recommendations needed to achieve full implementation. Due to the financial recommendation, this dissemination may need to be done at an administrative level as well, which will be determined by the OB leadership team.

Dissemination at an institutional or organizational level can only assist that one facility in improving a nursing practice change. As a proponent for improving health care outcomes on a global scale, participating in one's speciality organizations can assist in greater dissemination plans. For this project, the organization that would be best serving in the capacity for a broader dissemination would be AWHONN. This organization is focused on supporting nursing care using research and education in the areas of women, newborns, and family units (AWHONN, 2019). AWHONN is a national organization that has local chapters and holds state, regional, and national conferences yearly. It promotes best practices and nursing practice changes focused on improving outcomes, and it requests for poster and podium presentations from nurses in women's health and neonatal nursing at all conferences. This project would be an appropriate project for local and national dissemination through this organization. Likewise, AWHONN has two journals—*Journal of Obstetric, Gynecologic & Neonatal Nursing* and *Nursing for*

Women's Health—that offer further options for dissemination of this project (AWHONN, 2019). I will seek dissemination via either the state, regional, or national AWHONN conference for 2020 through a poster presentation and through publication in one of AWHONN's two nursing journals.

Analysis of Self

This DNP journey afforded me the opportunity to grow further as a nursing practitioner, a scholar, and a project manager. Moving through each step of this project helped me gain a better understanding of how vital evidence-based research is and how taking that research through the process of becoming EBP is essential to improving the outcomes of the populace. As a nursing practitioner and scholar, I developed a greater understanding and ability to navigate through research to create an EBP change. As a project manager, I was able to work with different department leaders throughout the project process in an effort to improve nursing practice at the project site. I was able to understand the steps involved with trying to move an idea forward to address a noted gap in practice to reach a tangible project outcome. This project allowed the enthusiasm and excitement that I felt about taking a noted gap in nursing practice and creating and presenting an EBP change that will address that gap to improve patient experience and care outcomes. The journey was beneficial and permitted me professional growth on an organizational level as well as future professional growth in nursing care and education. My future plans lie in nursing education and higher-level leadership in nursing-related fields or organizations.

This project was the culmination of the DNP educational program and was a journey occurring over time. I experienced different challenges and gained insights during the process. Challenges included health issues, work-related issues, and work/school life balance. To address these challenges, I created solutions. The solution for the health issue challenge also addressed the work/school life balance challenge, and for me, that was taking time for my family and myself. It is imperative during a DNP program and project to allot regular time for sleep and family. I cannot use the time off between classes to make up for lost time during classes. The solution for the work-related issues was to get buy-in and understanding from my work leaders on any time off or work schedule needs related to the DNP program or project. The insights I discovered during the DNP program and project were the need for a strong support system and how imperative EBP is to improved outcomes. Having a strong support system at home, work, and in the program permitted a venue for venting frustrations in a healthy manner and assisted in positive progression during the program and project. Gaining insight into how imperative EBP is to improved outcomes has solidified to me the need for more nurses to further their educational and professional growth to advance nursing practice globally.

Summary

The project used a qualitative descriptive study approach to address the project question: Will the development and use of a CPG facilitate effective interdepartmental communication and care collaboration, reducing delays and improving the patient experience for pregnant patients presenting for care in the ED? The purpose of the project was to develop and present a CPG inclusive of an evidence-based obstetrically focused

algorithm tool for use by the ED and OB teams to assist in improving communication and care collaboration when pregnant patients present to the ED for care. The project involved a literature review and the development of and presentation of a CPG with an attached obstetrically focused algorithm in multiple small discussion group sessions. I gained evidence from the literature and during the small discussion group sessions, which served to support the CPG as an effective manner to improve interdepartmental communication and care collaboration. The limitations/barriers I discovered during the small discussion group sessions also guided my recommendations for successful implementation of this project. Participants' consensus was that this project achieved its intended purpose and was applicable on a larger usability scale for the chosen population of patients.

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Appendix A: Analysis of Literature, Using Fineout-Overholt et al.'s (2010) Critical Appraisal of the Evidence

This is a summary of the articles selected from the search efforts of the literature review. Levels of evidence, as per Fineout-Overholt et al.'s (2010) hierarchy of evidence for intervention studies are as follows:

Key for Level of Evidence:

I: Systematic Review or Meta-analysis (from all relevant randomized controlled trials)

II: Randomized Controlled Trial

III: Controlled Trial Without Randomization

IV: Case-control or Cohort Study

V: Systematic Review of Qualitative or Descriptive Studies

VI: Qualitative or Descriptive Study

VII: Expert Opinion or Consensus

Literature Review Matrix							
Authors	Year	Name of journal or book	Title of article	Conceptual framework/ theory	Brief summary	Research method	Level of evidence
American College of Obstetricians and Gynecologists	2016		Committee Opinion: Hospital-Based Triage of Obstetric Patients	Committee opinion on Obstetric Practice, specifically: Hospital-based triage of Obstetric patients	Recommendations involve collaboration in care between emergency departments and all other ancillary departments; and, use of an obstetric triage acuity tool to improve quality and efficiency of care.	Validation of use of a Maternal Fetal Triage Index created ty the Association of Women's Health, Obstetric, and Neonatal Nurses' (AWHONN).	Level VII
Angelini & Howard	2014	*American Journal of Maternal/Child Nursing*, 39(5)	Obstetric Triage: A Systematic Review of the Past Fifteen Years: 1998–2013	No conceptual framework noted, QI process	Different triage categories were discovered, legal issues inclusive of EMTALA issues were discovered, patient flow and satisfaction rates improved with the utilization of the triage categories, and interprofessional education was discussed	Systematic review	Level V
Bramhall	2014	*Nursing Standard*, 29(14)	Effective Communication Skills in Nursing Practice	The Caring Model	Effective communication skills and how this can result in positive outcomes when applied in the practice setting.	Organizational technique for effective communication in nursing practice.	Level VII

Chagolla, Keats, & Fulton	2013	*Journal of Obstetrics, Gynecologic, & Neonatal Nurses*, 42	The Importance of Interdepartmental Collaboration and Safe Triage for Pregnant Women in the Emergency Department	Best-practice model developed for obstetric triage care in the emergency department	Obstetric patient care outcomes can be improved by ensuring early, frequent communication between the emergency department and the obstetric department; as well as by working collaboratively to ensure all patient care needs are met	Literature review from the Pennsylvania Patient Safety Authority (PFSA)	Level VII
Cheung, et al.	2009	*Annals of Emergency Medicine*, 55(2)	Improving handoffs in the emergency department	Information processing framework, stereotypical narrative framework, social interaction framework, and resilience framework	Transitions in care can lead to adverse patient outcomes for many different reasons. There are certain measures and strategies which can help improve this process	Peer literature review	Level VII
Dusek, Pearce, Harripaul, & Lloyd	2014	*Journal of Nursing Care Quality*, 30(3)	Care transitions: A systematic review of best practices	Transitions in Care theory	Evidence has shown that poor communication during care transition times leads to poor patient care outcomes, and using evidence-based practices can lead to optimal patient care outcomes during times of care transition	Systematic review	Level V

Freitag & Carroll	2011	*Quality Management in Health Care*, 20(2)	Handoff communication: Using failure modes and effects analysis to improve the transition in care process	Jean Watson's Caring Model	Errors related to communication problems decrease with the use of standardized SBAR handoff tool.	Failure mode and effects analysis, Pilot study (Non-randomized control trial) done based on the Joint Commission's goal on handoffs	Level III
Gilboy, Tanabe, Travers, & Rosenau	2011	*Emergency Severity Index: A Triage Tool for Emergency Department Care* (Version 4): Implementation Handbook-2012 Edition		Best-practice model developed for triage care in the emergency department	Creation of an Emergency Severity Index as a tool for use in an emergency department triage with a five-category stratification scale depending on severity from level 1(most urgent) to level 5 (least urgent).	Report created by the Agency for Healthcare Research and Quality (AHRQ) as a tool to be used in emergency departments.	Level VII
Holly & Poletick	2013	*Journal of Clinical Nursing*, 23	A Systematic Review on the Transfer of Information During Nurse Transitions in Care	Transitions in Care theory	The evidence showed that during handoff there are certain social interactions and cultural interactions which need to be addressed. It also shows that a standardized handoff can improve patient care outcomes	Systematic review	Level V

Horwitz, et al.	2008	*Annals of Emergency Medicine*, 53(6)	Dropping the baton: A qualitative analysis of failures during the transition from emergency department to inpatient care	No conceptual framework-this was an emergency medicine MD driven study	Transitions in care during time of handoff from the emergency department and internal medicine department has the potential to have serious negative patient outcomes with multiple areas, such as: communication, information technology, patient flow…	Qualitative analysis, cross-sectional surveys study	Level V
Kenny, Richard, Ceniceros, & Blaize	2010	*Nursing Research*, 59(1S)	Collaborating Across Services to Advance Evidence-based Nursing Practice	No conceptual framework noted, QI process	Evidence has shown that poor communication during care transition times leads to poor patient care outcomes, and using evidence-based practices can lead to optimal patient care outcomes during times of care transition	Performance Improvement Project	Level VII
Roberts, Putnam, & Raup	2012	*Journal of Nursing Care Quality,* 27(3)	The interdepartmental ticket (IT) factor	Iowa Model, Evidence-based project with Plan-Do-Check-Act process	An interdepartmental tool was created to improve handoff communications	QI process, Pilot study (Non-randomized control trial)-based on the Joint Commission's goal on handoffs	Level III
Ruhl, Scheich, Onokpise, & Bingham	2015	*Journal of Obstetrics, Gynecologic, and Neonatal Nursing*	Content Validity Testing of the Maternal Fetal Triage Index	No conceptual framework noted-QI process.	The results of the content validity testing of multidisciplinary validators suggest that the MFTI is a valid tool for use in obstetric triage and evaluation settings.	Online survey	Level VII
Smith, Devane, & Murphy-Lawless	2012	*International Journal of Childbirth*, 2(2)	Risk in maternity care: A concept analysis	Penrod & Hupcey's Principle based concept analysis	Risk in obstetrics is multi-faceted and what is thought to be a risk currently may not be viewed in that manner in the future	Systematic review	Level V

Smithson, Twohey, Rice, Watts, Fernandes, & Gratton	2013	*American Journal of Obstetrics and Gynecology*, 209(4)	Implementing an Obstetric Triage Acuity Scale: Interrater Reliability and Patient Flow Analysis	No conceptual framework-this was an emergency medicine MD driven study	A five-category obstetric triage acuity scale was created and used in order to decrease the timeframe to triage obstetric patients based on the acuity level of the patient	Online questionnaire-case reports	Level VII
Weller, Boyd, & Cumin	2014	*Postgrad Medical Journal*, 90	Teams, Tribes, and Patient Safety: Overcoming Barriers to Effective Teamwork in Healthcare	No conceptual framework noted-QI process involving a meta-analysis/systematic literature review.	Evidence suggests that improvement in teamwork in health care can lead to significant gains in patient safety, measured against efficiency of care, complication rate and mortality. Interventions to improve teamwork in health care may be the next major advance in patient outcomes	High fidelity simulation training and integration of organizational communication technique for teamwork.	Level V

Appendix B: CPG with Obstetric Algorithm

Improved Interdepartmental Care Collaboration for Pregnant Patients: Clinical Practice Guideline

Purpose: To provide a Clinical Practice Guideline for ED and OB teams to utilize to improve communication and care collaboration when pregnant patients present to the ED for care provision.

Date of Publication: April 22, 2019

Recommendation: (For ED staff)

- All female patients who present to the ED for care provision between the ages of 13-50
  should be screened/assessed for pregnancy.
- If noted pregnancy is greater than 20 weeks gestation with any OB ONLY complaint, call
  OB Clinical Manager/Charge Nurse to inform of patient/complaint, and send to OB triage for maternal/fetal assessment and document call in patient's EHR.
- If noted pregnancy is greater than 20 weeks gestation with NON OB complaint, call OB
  Clinical Manager/Charge Nurse to inform of patient/complaint and where in the ED the patient will be receiving care to permit for OB RN to come to perform collaborative care maternal/fetal assessment in ED and document call in patient's EHR.

Recommendation: (For OB staff)

- Upon receipt of call/notification from ED staff regarding pregnant patient with OB ONLY complaint-notify appropriate OB team members (ex. Triage RN/Labor RN/L&D OR RN)
  of impending patient arrival and complaint/any information from ED staff.
- Upon receipt of call/notification from ED staff regarding pregnant patient with NON OB complaint obtain from ED staff:
  1. Weeks' gestation (if known)
  2. OB Practitioner name (if known/receiving OB care)
  3. Non OB complaint/VS/any received history information
  4. Where in the ED the patient will be receiving care
- Follow listed Priority Level from attached Obstetric Algorithm-most appropriate for patient complaint.
- Obtain appropriate team/team member to send to ED to provide maternal/fetal assessment

(per Obstetric Algorithm) and send off unit with appropriate monitor/Doppler as per gestational age requirements.

(Gestational age fetal assessment requirements: 12-22.6 weeks via Doppler/US and greater than or equal to 23 weeks via External Fetal Monitor)

(ED team to call OB Clinical Manager/Charge RN as needed with any questions)

Collaborative care: ED staffs are primary care providers with OB team providing maternal/fetal assessment/OB clearance and recommendations from OB Practitioner as needed.